

REPORT
TO THE
BOARD OF HEALTH
OF
THE HEALTH DEPARTMENT
OF THE
CITY OF NEW YORK,
ON
SMALL-POX.

JANUARY, 1872.

NEW YORK:
JAMES L. HASTIE, STATIONER AND PRINTER,
1235 BROADWAY.

1872.

WCH
N 531 Mr
1872
c. 1



4431

6 Aug 63

REPORT ON SMALL-POX.

THE Sanitary Committee, in presenting and endorsing the within report of the City Sanitary Inspector, Dr. Moreau Morris, on the epidemic character and spread of small-pox during the last two years, and explaining the method adopted by this Department to arrest this dangerous and loathsome disease in our midst, respectfully recommend that the paper in question be referred to the Committee on Finance, with the instruction to have 5,000 copies of the same printed in pamphlet form for general distribution.

G. CECCARINI, M.D.,	{	Sanitary Committee.
STEPHEN SMITH, M.D.,		
MAGNUS GROSS,		

SMALL-POX.

DURING the last three years this disease has shown an epidemic form in various parts of the civilized world. Notwithstanding the efforts of Health Authorities, in the various localities where it has prevailed, to arrest its progress, it still continues to find large numbers of unprotected victims.

The general apathy prevalent among people of different nationalities, induced by long exemption from any great epidemic of this disease, has produced an indifference to its ravages and dangers, and an almost criminal neglect in the use of the only sure preventive which has proved worthy of the name.

The gradual skepticism, which, from various causes, has been growing in the public mind, with reference to the absolute protective value of vaccination, has contributed largely to its neglect, and in many places to its almost abandonment; and consequently we are now becoming aware of an enormous increase in the number of victims annually destroyed or disfigured by this loathsome pestilence.

In the larger cities of the Eastern Continent, in South America, the Islands of the Pacific and Atlantic Oceans, and North American cities, it has shown a constantly increasing tendency to assume large proportions, during the last three years.

The following statistics already received from various cities will show, by the death-records of the year 1871, some of these facts.

The following is a statement of the deaths by small-pox during the year 1871, in various places, with the population of each in round numbers, and the percentages per 1,000 of deaths to the population.

	Population.	Deaths.	Percent'ge per 1,000.
Berlin.....	900,000	5,011	5.57
London.....	3,252,000	7,886	2.43
Liverpool.....	525,000	1,119	3.64
Manchester..	380,000	264	.69
Sunderland.....	100,000	808	8.08
New Castle.....	130,000	700	5.39
		For first 5 months of year only.	
South Holland.....	100,000	5,101	51.01
Philadelphia.....	674,000	1,858	2.76
New York.....	942,000	805	.85

It may safely be estimated that the deaths indicate about one-fourth of the total number of cases occurring.

These figures show that, while this disease has during the past year swept away its thousands in other cities, New York has a death-record of only 805 out of a population of 942,292, a percentage of .85 per 1,000 of its population.

In the exhibition of this favorable result, New York may claim, through its Health Organization, to have accomplished what no other city or country has ever done.

Notwithstanding the well-known fact that it is more directly exposed to the inroads of this and other epidemic pestilences, being the great entrepôt of emigration, the grand gateway of the highroads of commerce, and so near, by the aid of steam, to

all other parts of the world, from which this disease may be transported during its period of incubation, and distributed before detection is possible; yet, by the use of such means as science and experience have shown to be effective in preventing and arresting its spread, has New York thus far escaped from this widely devastating pestilence. It may be said, without fear of contradiction, that never in the history of epidemics in any country have there been such thorough and systematic appliances instituted and carried to successful issue, as those adopted and applied by the Health Department of this city.

Under the wise provisions of the laws of this State, this Department has been enabled to apply such measures as Sanitary Science demands. By its methods, early information is obtained of cases of contagious diseases occurring within its jurisdiction; and, by the prompt, judicious and liberal application of preventive means, combined with sanitary care of cases, and sources of infection, the Department has been enabled to accomplish such results as prove to the world that Science does not stultify herself, when she declares that pestilences should and can be controlled and stayed.

The history of small-pox, as it has occurred in this city during the past year, and the methods in detail by which it has been controlled, through the efforts of the Health Department, form an instructive lesson.

About the first of January, 1870, the Bureau of Sanitary Inspection became informed, through the

increasing reports of cases from the medical profession and others, that small-pox was becoming again epidemic in its character. The Board of Health immediately increased the force of Assistant Health Inspectors, specially for the duty of offering free vaccination, by house to house visitation, to all persons needing that protection. This duty was continued until nearly every tenement house, public and parochial school, had been visited, and the large number of about 100,000 persons had been vaccinated. This measure, in connection with the sanitary care of the cases as they occurred, had the effect of almost entirely suppressing the disease, so that, during the months of September and October, the number of reported cases reached the minimum, being as low as six per week.

During the year 1871, the number of cases known to have occurred in the city, by reports received at the Bureau of Sanitary Inspection, in connection with the number of patients received at the Small-pox Hospital, from other sources than the city directly, was 3,084. The official record of these is as follows:

ADMISSIONS TO SMALL-POX HOSPITAL FOR YEAR 1871.

From city,	1,731	
“ Quarantine direct,	235	
Other places beyond city limits,	532	
	<hr/>	
Total,		2,498
Isolated and treated in the city,		484
Secreted, and first reported as dead, in city,		101
		<hr/>
Total,		3,084

The total of deaths for the year, as recorded in the Bureau of Vital Statistics, was 805; therefore the percentage of deaths to all cases appears to be 26.10.

The percentage of deaths to cases treated at the Small-pox Hospital was 20.46, there having been 2,498 cases treated, and 511 deaths occurring thereat.

That there was a much larger percentage of deaths occurring among those isolated and secreted at their own homes in the city, is, beyond question, true; but, as no accurate statistics of the actual number of cases secreted and treated at their own homes can be obtained, it becomes impossible to arrive at positive proportions.

From the fact that so large a number (101) were reported as dead at their own dwellings, without medical attention in many instances, it must be inferred that concealment in close rooms, without proper ventilation or medical treatment, could not but result in a large death-rate.

The special methods of controlling and arresting the spread of this disease, as employed by the Health Department of this city, may be described under the following heads:

1. *How information is received of its presence.*
2. *The means employed in rendering persons unsusceptible.*
3. *Isolation.*
4. *Means employed to destroy the poison.*

1st. *How information is received of the presence of contagious disease.*

Sections 122 and 123 of the Sanitary Code require that such information be promptly forwarded to the Bureau of Sanitary Inspection, as follows:

Section 122. "That every physician shall report to the Bureau of Sanitary Inspection, in writing, every person having a contagious disease, and the state of his or her disease, and his or her place of dwelling and name if known, which such physician has prescribed for, or attended for the first time, since having such a contagious disease, during any part of the preceding twenty-four hours; but not more than two such reports shall be required in one week concerning the same person; but every attending or practising physician thereat must, at his peril, see that such report is or has been made by some attending physician."

Section 123. "That every keeper of any boarding-house or lodging-house, and every inn-keeper and hotel-keeper shall, within twenty-four hours, report in writing to the Bureau of Sanitary Inspection the same particulars in the last section required of any physician, concerning any person being at any of the aforesaid houses or hotels, and attacked with any contagious disease."

To facilitate prompt reports of such, the Board of Health have caused the following blank form to be prepared and furnished to the medical profession:

NEW YORK, 187.....

Report of Contagious Disease.

To DR. MOREAU MORRIS,

City Sanitary Inspector, 301 Mott St

Name of patient, age,

Residence, Disease,

Condition of premises,

Signature, M. D.

Residence,

2d. *The means employed in rendering persons unsusceptible.*

As small-pox appears to be the only contagious disease that it is possible to control by preventive means, the Board, in the absence of compulsory law, has adopted the method of offering free vaccination, by house to house visitation, to every person who may be unprotected. Medical Assistant Health Inspectors are appointed from time to time as occasion requires, to perform this service. During the year 1871, over 100,000 persons were vaccinated by these means. As to the value of vaccination as a means of protection, the almost unanimous opinion of the best-informed members of the medical profession is, that, when carefully and successfully performed, it is a positive protection to the individual; and our experience during the past year offers one of the strongest proofs of this truth, viz. : in the fact that, among all of those successfully vaccinated or re-vac-

inated, none have fallen victims to this disease in any form, while numbers have been stricken with it, who refused to be vaccinated. This fact comes to our knowledge almost daily.

With reference to this successful protection, much may be attributed to the fact of using only fresh virus, while in an active condition, being almost from arm to arm—our practice being to use the virus selected from healthy infants only, *within twenty-four hours from the time of taking it from the arm*. From the difficulty of obtaining a sufficient quantity and a regular daily supply of bovine lymph, and from the fact that the limited supply obtained at one time gave no better results as a prophylactic, we now rely upon humanized lymph exclusively. The absolute protection afforded so large a number, as our statistics show, is a convincing argument as to its inestimable value as a preventive.

The difficulty of always keeping a supply of fresh vaccine virus on hand is so great, that means should be provided by the State for a public institution, under the charge of the Health Department, for the cultivation of pure bovine or animal vaccine; and, connected therewith, practical instruction should be given as to the best methods for its application.

The importance of having pure lymph, and uniform methods for its introduction into the system, cannot be over-estimated. This operation, although comparatively simple, should form a part of the regular instruction of every medical student; for there are found to be as many different methods of appli-

cation, almost, as there are medical men in the profession.

3d. *Isolation.*

The Board of Health is empowered by law to cause the removal of any person, sick with small-pox or contagious disease, to hospital, or place by it designated; therefore it has authorized its chief officer, in his discretion, to cause such removal whenever he deems it necessary, under certain regulations.

In pursuance of these regulations, unless it appears evident by surrounding circumstances that a patient sick with this disease can be *thoroughly* isolated, so as to protect the public from any danger from infection therefrom, he or she is at once removed to the Small-pox Hospital.

This is done by means of improved ambulances, specially provided by the Board, and under the charge of persons especially trained for that service.

Those persons isolated at their own homes are kept under the supervision of a Medical Health Inspector, who attends to the enforcing of the rules adopted by the Board, with reference to quarantine and sanitary care, leaving the regular medical attendant free to his special medical care of the patient.

The Board's officers, having only the duty of protecting the public from the spread of the infection, have no responsibility whatever in the medical treatment.

The details of the methods, as performed by the Bureau of Sanitary Inspection, with reference to the prevention and spread of this disease, are as follows:

Health Inspectors are on detail duty at the office daily. The moment a case is reported, an Inspector visits it and reports, through the nearest police telegraph station, to the office, giving the diagnosis and the fact whether removal to Hospital is necessary or not. If to be removed, the ambulance is at once dispatched and the patient removed. A member of the vaccinating corps is now sent to the house, and vaccination performed upon all the inmates ; and also, every house upon that block, and the face of the opposite block is visited, and vaccination offered to every inmate, informing them of the proximity of the disease. This rapidly secures, as far as possible, the protection of those who may have been exposed to the infection. This direct application seems to have had the effect of preventing any extended centres of infection from forming, and hence we find that the cases reported come from widely dispersed localities.

4th. Means employed to destroy the poison.

For this purpose various disinfectants are used. The following card of instructions is supplied for the guidance of those having charge of patients that may be isolated at their own premises, and is always left with the attendants by the Health Inspector in charge of the case :

“ HEALTH DEPARTMENT, }
“ Office 301 Mott St. }

“ SANITARY REGULATIONS AGAINST SMALL-POX,
SCARLATINA, AND MEASLES.

“ Every case must be reported to the City Sanitary Inspector upon its first recognized appearance.

“ *Care of patients.* The patient should be placed in a separate room, and no person, except the physician, nurse, or mother, allowed to enter the room, or touch the bedding or clothing used in the sick-room until they have been thoroughly disinfected.

“ *Infected articles.* All clothing, bedding, or other articles not absolutely necessary for the use of the patient, should be removed from the sick-room. Articles needed about the patient, such as sheets, pillow-cases, blankets, or clothes, must not be removed from the sick-room until they have been disinfected, by placing them in a tub with the following disinfecting fluid :

“ 8 ounces of Sulphate of Zinc ; 1 ounce of Carbolic Acid ; and 3 gallons of water.

“ They should be soaked in this fluid for at least one hour, and then placed in boiling water for washing. A piece of muslin one foot square should be dipped in the same solution and suspended in the sick-room constantly, and the same should be done in the hall-way adjoining the sick-room.

“ Feather beds and pillows, hair pillows and mattresses, and flannel or woolen goods, require fumigation, and should not be removed from the sick-room until after this is done. Whenever a patient is removed from the sick-room, notify the Bureau of Sanitary Inspection, when the disinfecting corps will, as soon as possible thereafter, perform the work of fumigation.

“ All vessels used for receiving the discharges of patients should have some of the disinfecting fluid

constantly therein, and immediately after use by the patient, be emptied, and cleansed by boiling water. Water-closets and privies should also be disinfected daily with the same fluid, or a solution of Chloride of Iron, one pound to a gallon of water, adding one or two ounces of Carbolic Acid.

“ All straw beds should be burned, but must not be removed from the sick-room without a permit from this Department. They will be removed by the Disinfecting Corps.

“ It is advised not to use handkerchiefs about the patient, but rather soft rags for cleansing the nostrils and mouth, which should be immediately burned thereafter.

“ The ceilings and side-walls of the sick-room, after removal of patient, should be thoroughly cleansed and lime-washed, and the wood-work and floor thoroughly scrubbed with soap and water.

“ By direction of the Health Department.

“ MOREAU MORRIS, M.D.,

“ *City Sanitary Inspector.*”

So soon as the Bureau is informed of the removal of the patient from the sick-room, the work of fumigation is performed by the corps designated for that duty, and it is done in the following manner: The doors and windows being tightly closed, after the bedding and clothing has been suspended in some manner, so as to allow free access of the fumes, from one to three pounds of sulphur are placed upon



some metallic vessel, so as to avoid the danger of fire, a little alcohol poured over it and then set on fire, the operator immediately leaving the room and closing the door tightly, so as to prevent the escape of the fumes as far as possible.

This is allowed to burn out, and thus liberate large volumes of the fumes of Sulphurous Acid. After two hours the doors and windows may be thrown wide open, and the room thoroughly ventilated by the free admission of air. Experience has taught us that these means have proved, when thoroughly done, to have destroyed the infection which has been in the apartment. Carbolic Acid and Sulphurous Acid seem to have the property of utterly destroying the germs of this particular poison, while chlorine, so much relied upon as a disinfectant heretofore, does not prove to have the same power. Experiments are being frequently made of various substances for the purpose of disinfection, as circumstances vary, so that those most efficient and best adapted to the purpose may be used.

When such facilities can be afforded, disinfection of apartments and clothing may daily be done, by means of the spray atomizer, which literally fills the atmosphere of the room with a fine cloud of disinfecting material, that may readily destroy whatever floating atoms of infectious matter may be present.

Respectfully submitted.

MOREAU MORRIS, M.D.,

City Sanitary Inspector.